

## § 179.201-5

surface may be finished by grinding or machining.

[68 FR 75762, Dec. 31, 2003]

### § 179.201-5 Postweld heat treatment and corrosion resistance.

(a) Tanks and attachments welded directly thereto must be postweld heat treated as a unit at the proper temperature except as indicated below. Tanks and attachments welded directly thereto fabricated from ASTM A 240/A 240M (IBR, see §171.7 of this subchapter) Type 430A, Type 304 and Type 316 materials must be postweld heat treated as a unit and must be tested to demonstrate that they possess the corrosion resistance specified in §179.200-7(d), Footnote 2. Tanks and attachments welded directly thereto, fabricated from ASTM A 240/A 240M Type 304L or Type 316L materials are not required to be postweld heat treated.

(b) Tanks and attachments welded directly thereto, fabricated from ASTM A 240/A 240M Type 304L and Type 316 materials must be tested to demonstrate that they possess the corrosion resistance specified in §179.200-7(d), Footnote 2.

[68 FR 75762, Dec. 31, 2003]

### § 179.201-6 Manways and manway closures.

(a) The manway cover for spec. DOT 104W, 111A60-ALW1, 111A60W1, 111A100ALW1, 111A-100W1, 111A100W3, or 111A100W6 must be designed to make it impossible to remove the cover while the interior of the tank is subjected to pressure.

(b) The manway cover for spec. DOT 11A60W5, or 111A100W5 must be made of a suitable metal. The top, bottom and edge of manway cover must be acid resistant material covered as prescribed in §179.201-3. Through-bolt holes must be lined with acid resistant material at least one-eighth inch in thickness. Cover made of metal not affected by the lading need not be acid resistant material covered.

(c) The manway ring and cover for specifications DOT-103CW, 103DW, 103EW, 111360W7, or 11A100W6 must be made of the metal and have the same inspection procedures specified in AAR Specifications for Tank Cars, appendix

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M, M3.03 (IBR, see §171.7 of this subchapter).

[Amdt. 179-10, 36 FR 21353, Nov. 6, 1971; 66 FR 45186, Aug. 28, 2001; 68 FR 48571, Aug. 14, 2003; 68 FR 75762, Dec. 31, 2003]

### § 179.201-8 Sampling device and thermometer well.

(a) Sampling valve and thermometer well are not specification requirements. When used, they must be of approved design, made of metal not subject to rapid deterioration by lading, and must withstand a pressure of 100 psig without leakage. Interior pipes of the sampling valve must be equipped with excess flow valves of an approved design. Interior pipe of thermometer well must be closed by an approved valve attached close to fitting where it passes through the tank and closed by a screw plug. Other approved arrangements that permit testing thermometer well for leaks without complete removal of the closure may be used.

(b) [Reserved]

[Amdt. 179-10, 36 FR 21348, Nov. 6, 1971, as amended at 66 FR 45390, Aug. 28, 2001]

### § 179.201-9 Gauging device.

A gauging device of an approved design must be applied to permit determining the liquid level of the lading. The gauging device must be made of materials not subject to rapid deterioration by the lading. When the interior pipe of the gauging device provides a means for passage of the lading from the interior to the exterior of the tank, it must be equipped with an excess flow valve of an approved design. If the opening for passage of lading through the gauging device is not more than 0.060 inch diameter an excess flow valve is not required. The gauging device must be provided with a protective housing.

[Amdt. 179-10, 36 FR 21353, Nov. 6, 1971]

### § 179.201-10 Water capacity marking.

(a) Water capacity of the tank in pounds stamped plainly and permanently in letters and figures at least 3/8 inch high into the metal of the tank immediately below the stamped marks specified in §179.200-24(a). This mark shall also be stenciled on the jacket immediately below the dome platform

and directly behind or within 3 feet of the right or left side of the ladder, or ladders, if there is a ladder on each side of the tank, in letters and figures at least 1½ inches high as follows:

WATER CAPACITY

000000 Pounds

(b) After July 25, 2012, authorized DOT non-pressure tank cars that comply with this section and are equipped with stainless steel identification plates may have the water capacity of the tank in pounds prescribed in the first sentence of paragraph (a) of this section stamped plainly and permanently on their identification plate in conformance with the applicable marking requirements prescribed in §179.24(a) instead of into the metal of the tank or immediately below the stamped marks specified in §179.200-24(a).

[29 FR 18995, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967. Amended at 77 FR 37985, June 25, 2012]

**§ 179.201-11 Insulation.**

(a) Insulation shall be of sufficient thickness so that the thermal conductance at 60 °F. is not more than 0.075 Btu per hour, per square foot, per degree F. temperature differential.

(b) [Reserved]

**§§ 179.202-179.202-22 [Reserved]**

**§ 179.220 General specifications applicable to nonpressure tank car tanks consisting of an inner container supported within an outer shell (class DOT-115).**

**§ 179.220-1 Tanks built under these specifications must meet the requirements of §§ 179.220 and 179.221.**

**§ 179.220-3 Type.**

(a) Tanks built under these specifications must consist of an inner container, a support system for the inner container, and an outer shell.

(b) The inner container must be a fusion welded tank of circular cross section with formed heads designed convex outward and must have a manway on top of the tank as prescribed herein. When the inner container is divided

into compartments, each compartment must be considered a separate container.

(c) The outer shell must be a fusion welded tank with formed heads designed convex outward.

[Amdt. 179-9, 36 FR 21340, Nov. 6, 1971]

**§ 179.220-4 Insulation.**

The annular space between the inner container and the outer shell must contain an approved insulation material.

[Amdt. 179-9, 36 FR 21340, Nov. 6, 1971]

**§ 179.220-6 Thickness of plates.**

(a) The wall thickness, after forming of the inner container shell and 2:1 ellipsoidal heads must be not less than specified in §179.221-1, or not less than that calculated by the following formula:

$$t = \frac{Pd}{2SE}$$

Where:

$d$  = Inside diameter in inches;

$E$  = 0.9 welded joint efficiency; except  $E=1.0$  for seamless heads;

$P$  = Minimum required bursting pressure in psig;

$S$  = Minimum tensile strength of plate material in p.s.i. as prescribed in AAR Specifications for Tank Cars, appendix M, Table M1;

$t$  = Minimum thickness of plate in inches after forming.

(b) The wall thickness after forming of the inner container heads, if flanged and dished, must be not less than specified in §179.221-1, or not less than that calculated by the following formula:

$$t = \frac{5PL}{6SE}$$

Where:

$E$  = 0.9 welded joint efficiency; except  $E=1.0$  for seamless heads;

$L$  = Main inside radius to which head is dished, measured on concave side in inches;

$P$  = Minimum required bursting pressure in psig;

$S$  = Minimum tensile strength of plate material in psi as prescribed in AAR Specifications for Tank Cars, appendix M, Table M1 (IBR, see §171.7 of this subchapter);